

CANADIAN OCEAN SCIENCE NEWSLETTER
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OCEAN SCIENCE NEWS

Oldest Canadian Coast Guard ship to return to service after lengthy refit

[Paul Withers](#) · **CBC News** · Posted: Jul 13, 2020 6:00 AM AT | Last Updated: July 13

[Link to CBC Article](#)



After its latest refit at the Newdock shipyard in St. John's, the 57-year-old CCGS Hudson is ready to sail. (Ted Dillon/CBC)

The oldest ship in the Canadian Coast Guard fleet will return to service next month after spending three of the last four years in refit. The 57-year old CCGS Hudson is days away from completing a vessel-life extension and is now expected to remain in service until its 2024 retirement date. A replacement oceanographic science vessel is supposed to be delivered to the Department of Fisheries and Oceans by the Seaspan shipyard in Vancouver at that time. Hudson is set to leave the Newdock shipyard in St. John's this week and to resume science missions in the Atlantic Ocean in August or September.

First mission will be for whale project

The first mission will deploy moorings to listen for whales off Nova Scotia. Then it will carry out ocean climate monitoring from southern Nova Scotia to



CGS Hudson in the Canadian Arctic in the late 1980s. [BIO 2002 in Review]

"There will be no restrictions," said Gary Ivany, assistant commissioner of the Canadian Coast Guard. "It will be able to meet all of its

requirements through the coming years." The missions will mark the completion of an ill-fated refit program that began in late 2016. Since then, Hudson was in service only in 2018.

'It's a shame that we missed so much,' says scientist

With the ship unavailable over several seasons, [the coast guard scrambled to charter vessels](#), at a cost of millions of dollars, to carry out at-sea science in the Atlantic. Even so, missions were scrubbed as refits ran late or suitable charters could not be found, which interrupted studies of how ocean conditions change over time. The return of Hudson is welcome news to federal scientist Dave Hebert, who heads up the Atlantic Zone Monitoring Program in the Maritimes, which measures ocean conditions. "Yeah, that'll be nice to do that and get back to it," said Hebert. "I mean, the ship's supposed to be in really good shape. "It's a shame that we missed so much."

Unexpected problems delayed St. John's refit

Hudson is completing the second phase of its life extension. The original budget for this project was \$10 million, but with extra work the cost has nearly doubled to \$19.6 million. It was in the shipyard twice as long as originally scheduled. Hudson entered Newdock in February 2019 and was expected out in July 2019. But [lead paint and asbestos were discovered](#) when the ship was opened up. There were also unexpected heating and ventilation problems. Finding replacement parts took time.

More money, more problems

Newdock is finishing a major maintenance program that began at Heddle Marine in Hamilton several years earlier. That \$4-million project also ran into unexpected problems and delays. The showstopper was the discovery of a cracked stern tube carrying the ship's propeller, which added weeks to the job. [Faced with ongoing delays in October 2017, the federal government towed Hudson out of Heddle with the refit unfinished](#) because it was feared the ship would be trapped by winter ice. Despite the problems, that's when federal officials explored the idea of keeping Hudson in service for at least five additional years and as many as 10.

Hudson replacement first promised by 2014

EXPÉDITION HUDSON 70 EXPEDITION



Wadhams, P. 2009. Hudson-70: The first circumnavigation of the Americas. *Oceanography* 22(3):226–235, [doi:10.5670/oceanog.2009.82](https://doi.org/10.5670/oceanog.2009.82).

The ship was supposed to be replaced as early as 2014 as part of the national shipbuilding strategy. The latest update estimates delivery of a new vessel in 2024. "All the plans are on schedule with the oceanographic science vessel in Seaspan in Vancouver," said Ivany. "Pre-construction work has already started. It's expected that construction work will start this winter and winter 2021 with delivery in 2024." But timelines have been a sliding target since a new science vessel was promised by the Harper government in 2011. By 2013, coast guard officials were predicting a replacement would be sailing in 2017. The cost then was estimated at \$144 million. In a 2018 federal government update, the new vessel was expected in service by late 2021 or early 2022 with an estimated budget of \$341 million. That date was pushed back when the oceanographic science vessel lost its place in line to the navy and a new supply ship was built first.



Photo from [Mac Mackay's Shipfax](#)

Living Shorelines Projects in Action

From [Casco Bay Currents Summer 2020 edition](#)

A team of colleagues from municipal and state government, nonprofits, and private consultants, led by Pete Slovinsky, Marine Geologist at Maine Geological Survey, installed pilot living shorelines construction projects in May and early June in Brunswick.

Living shoreline is a broad term that encompasses a range of shoreline stabilization techniques along estuarine coasts, bays, sheltered coastlines, and tributaries.

The team set up demonstration sites at [Wharton Point](#) and [Maquoit Bay Conservation Lands](#) in Brunswick (a third site, [Lanes Island](#) in Yarmouth, is still under consideration). Recycled and aged oyster shell and fallen trees were chosen as treatments as they beneficially reuse naturally occurring materials common to Casco Bay.



CBEP is leading a long-term (five-year) monitoring program to track the efficacy of the different installations in curtailing erosion, the impacts of the treatments to surrounding habitats, and how well these installations can survive in Maine's harsh winter climate.

Learn more about this project on the Maine Geological Survey website [here](#).

Oceanography Honours at a Virtual Event

Several Oceanography awards were presented at CMOS's Prizes and Awards Celebration 2020. The zoom virtual ceremony was held on June 11.

CNC-SCOR Early Career Ocean Scientist Award

CNC-SCOR's Early Career Ocean Scientist Award is presented to an early career oceanographer/marine scientist for an outstanding contribution to marine sciences (in the broadest sense) within Canada. We are happy to announce that the winner this year is **Louis-Philippe Nadeau** from ISMER at UQAR. He has a strong

publication record in recognized journals covering diverse subject matter. He works with complex models and works in the field. He has a heavy supervisory load, overseeing Masters and PhD students as well as post doctoral fellows. He has been a session organizer at multiple CMOS congresses. He works well independently and contributes strongly in team collaborations. Congratulations Louis-Philippe.



CNC-SCOR 2020
Early Career
Scientist Award
Winner Louis-
Philippe Nadeau



CNC-SCOR 2019 Early Career
Scientist Award Winner
Cathryn Clarke Murray

Because we were unable to make a presentation at the 2019 IUGG/CMOS meeting, we also presented the 2019 winner, **Cathryn Clarke Murray** from DFO at IOS. You can find out more about Cathryn and her work in earlier newsletters, [here](#) and [here](#).

J.P. Tully Medal in Oceanography La Médaille J.P. Tully en océanographie

Ken Denman SEOS, University of Victoria

... for his pioneering work across disciplines within oceanography, on Canada's east and west coasts, leading to advances in understanding and modelling both how the physical oceanographic setting organizes the biology and how the biology influences the physics that have been impactful on the world stage.

... pour ses travaux inédits couvrant plusieurs disciplines de l'océanographie et visant les côtes Est et Ouest du Canada, et qui ont permis d'améliorer la compréhension et la modélisation de la façon dont l'environnement océanographique physique organise la biologie et dont la biologie influe sur la physique. Ces avancées ont eu une incidence partout dans le monde.



Ken Denman

Tertia M.C. Hughes Memorial Graduate Student Prize Le Prix Tertia M.C. Hughes pour étudiants diplômés

Hakase Hayashida

... for his excellent thesis titled *Modelling sea-ice and oceanic dimethylsulfide production and*

emissions in the Arctic (University of Victoria)

... pour son excellente thèse intitulée « *Modelling sea-ice and oceanic dimethylsulfide production and emissions in the Arctic* ». (Université de Victoria)

Dan Weaver

... for his excellent thesis titled *Water vapour measurements in the Canadian High Arctic*.
(University of Toronto)

... pour son excellente thèse intitulée « *Water vapour measurements in the Canadian High Arctic*.
» (Université de Toronto) .

This section of your newsletter provides an opportunity to highlight your research programs to the Ocean Science Community.

*Your are invited to send contributions to
David Greenberg,
david.greenberg@dfo-mpo.gc.ca*

Mettez en valeur vos programmes de recherche en publiant un article dans cette première section de votre bulletin.

*Faites parvenir vos contributions à
David Greenberg,
david.greenberg@dfo-mpo.gc.ca*

MEETINGS

ArcticNet Arctic Change Conference

Virtual, Dec 7-10, 2020

**ARCTIC
CHANGE
2020**

In December 2020, Arctic Change will make history by going virtual for the first time ever. ArcticNet's international Arctic science conference takes place every 3 years, bringing together researchers and partners from around the world. This year, we're taking the conference to you! Building on the success of our previous Annual Scientific Meeting while facing the realities of our times, we are pulling out all the stops to reach a bigger audience than ever before. The ArcticNet Network of Centres of Excellence and our partners warmly invite the global Arctic community to join us—from wherever you are—at the Arctic Change 2020 Virtual Conference.



Arctic Change 2020 will bring together leading Arctic researchers, Northern community representatives, graduate students, government and industry partners and stakeholders from all fields. During the week, the world's foremost northern scientists will discuss the emerging global challenges and opportunities arising from climate change and modernization in the circum-Arctic. With over 1500 participants expected to attend, Arctic Change 2020 will be one of the largest trans-sectoral international Arctic research conferences ever held in Canada. The organizers received 92 proposed sessions. With the final 61 topical sessions accepted for the program, AC2020 will be an outstanding opportunity to present your Arctic research and network online with a broad range of colleagues, collaborators as well as policy and decision-makers. The final list of topical sessions can be found at <https://arcticnetmeetings.ca/ac2020/topical-sessions>



uOttawa

To submit your abstract for either a presentation or an e-poster, visit our website at:

<https://arcticnetmeetings.ca/ac2020/call-abstracts>

Important Note: It is expected that the online conference will host at least 250 presentations across the topical sessions. In order to support our presenters and limit the potential technical difficulties that may arise during live presentations, all presentations must be recorded in advance. All **submissions must be received by** end of day **Tuesday, September 8, 2020**. Should your submission be selected, you will receive detailed instructions, including a tutorial video on how to prepare your presentation at that time. All **videos must be received by** the ArcticNet Secretariat by end of day Sunday, **November 1, 2020** to be included in the conference.



All **e-posters must be submitted as a PDF by** end of day Sunday, **November 15, 2020**.

The details are still being developed, but there is already a [draft program](#).

Questions can be directed to ArcticChange@arcticnet.ulaval.ca.

[Conference Website](#)

The Southern Ocean in the Weddell Sea and off Dronning Maud Land

20-23rd October 2020, Online

(postponed from 28-30 April 2020 due to COVID-19)



The Southern Ocean Observing System (SOOS) Weddell Sea – Dronning Maud Land Regional Working Group is holding an online multidisciplinary workshop, “The Southern Ocean in the Weddell Sea and off Dronning Maud Land: unique oceanographic conditions shape circumpolar and global processes”

The aims of the workshop are to:

- provide an overview and actual update of scientific findings, which underline the WS-DML as an important area for multi-disciplinary studies (30 registered oral presentations, 10 three-minute flash presentations (substitute for 'poster' session), and a discussion on initiating a WS-DML special issue. The SOOS community and also the individual researchers would benefit from an improved visibility of our results published in such a special volume.
- inform the SOOS WS-DML community about the progress of activities in the area of interest.
- Present ideas, actions and products for the future including multi-national initiatives and ongoing and future national plans, including a discussion on the impact of COVID-19 on the coming field season, in a plenary session.

[More information](#)

[Full announcement including preliminary schedule](#)

AGU Fall Meeting 2020

7-11 December 2020, virtual (mostly) & San Francisco (possibly)

AGU Fall Meeting 2020 will be mostly virtual and remains the global convening meeting for the Earth and space sciences community. Featured meeting content will be held during the original 7-11 December dates, with additional content scheduled to best meet the needs of our international attendees around the world. Content will include real-time sessions, networking opportunities and poster hall time. We will also offer recorded sessions so you can watch (or binge) at your convenience. Convergent themes including global science policy, data, natural hazards and climate science will be prominently featured.



With these new and reimagined offerings at Fall Meeting, we will be charging a registration fee. Registration rates will be available soon and will be about 50% less than the in-person rate and lower for graduate students and other groups. There is also a non-refundable abstract processing fee, separate from meeting registration fees. We assure you that the value that you have always experienced at Fall Meeting in-person will remain in our virtual version.

If science and health professionals tell us it is safe for groups to convene, AGU will host a regional gathering in San Francisco. If we decide that's feasible, we will let you know by August.

Depending on where you're located (and if it's safe), you can create your own mini-#AGU20 watch party or hub. We'll offer guidance if that's of interest.

For updated information on planning, please visit the AGU Fall Meeting [website](#).

Please send meeting announcements to
David Greenberg,
david.greenberg@dfo-mpo.gc.ca

SVP faites parvenir vos annonces de réunion à
David Greenberg,
david.greenberg@dfo-mpo.gc.ca

POSITIONS AVAILABLE

Postdoctoral Fellow, Zooplankton Ecology & Modelling of the Salish Sea

Earth, Ocean and Atmospheric Sciences, UBC

The Department of Earth, Ocean and Atmospheric Sciences at the University of British Columbia invites applications for a Postdoctoral Fellow in the field of zooplankton ecology and modelling. The successful applicant will conduct research as part of a collaborative group investigating and modelling phytoplankton and zooplankton ecology of the Salish Sea. The candidate will be expected to take a lead role in performing model - data comparisons to evaluate an existing coupled bio-physical model (SalishSeaCast with SMELT salishsea.eos.ubc.ca) in collaboration with zooplankton ecologists in Fisheries and Oceans, Canada and University of Washington. Once the model is evaluated, the candidate will use the model results to determine the drivers of seasonal and interannual variability in zooplankton in the Salish Sea to aid in understanding juvenile salmon survival. In collaboration with modellers, the candidate will contribute to the development and testing of zooplankton model improvements. Other responsibilities include communications with partners, report preparation, presentation of results at conferences and the publication of research results in peer-reviewed, leading international journals.



The application **deadline** is **August 14, 2020** but will be extended if a suitable candidate has not been found.

[Details](#)

Assistant Professor, Large Whale Conservation

Oceanography, Dalhousie

The Canadian Wildlife Federation will fund a Chair in Large Whale Conservation.

We are seeking candidates who will conduct research on the quantification of the impacts of environmental variability, including climate change, on the populations and distribution of large whale species, using a variety of approaches (sea-going, empirical and modelling) to foster a mechanistic understanding of distributional patterns, demographic variation and foraging ecology. Preference will be given to candidates who use and develop modern tools and analytical approaches to quantify and predict whale movement, distribution, and oceanographic habitat associations, such as remote sensing and acoustic detection technologies. At-sea experience with physical and biological oceanographic studies and experience with evidence-based advice to influence conservation policy are assets.



**DALHOUSIE
UNIVERSITY**

Ideally, the candidate will have a PhD in biological oceanography or related discipline focused on large whales, postdoctoral experience, a strong publication record, a history of successful funding applications and mentoring experience.

[Details](#)

Deadline September 8, 2020

Postdoctoral Fellow, Benthic Ecosystem Mapping and Engagement

Marine Affairs Program, Dalhousie

The BEcoME (Benthic Ecosystem Mapping and Engagement) project of OFI (<https://oceanfrontierinstitute.com/research/become>) is seeking a post-doctoral fellow to work under the supervision of Dr. Claudio Aporta (Marine Affairs) and Dr. Patricia Manuel (School of Planning) in sub-project (WP 1.1): Engagement for Co-design of Benthic Ecosystem Mapping. The sub-project is a collaborative undertaking among the researchers and industry, community, and Indigenous organizations. Objectives are engagement for collaborative data sharing and interpretation in select case study locations; the co-production of visualizations of the benthic environments using technologically- and culturally-derived data; and the design of a framework to integrate data, information, and knowledge in a cross-cultural setting to support decision-making for marine resource stewardship.



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[Details](#)

Deadline August 15, 2020

Postdoctoral Research Associate - Hydrodynamic Modeling

William & Mary VIMS, Gloucester Point, VA

William & Mary's Virginia Institute of Marine Science (VIMS) is seeking a Postdoctoral Research Associate/ senior computational scientist in numeric modeling of coastal systems to work with Dr. Y. Joseph Zhang. The Postdoctoral Investigator will join ongoing projects involving the development and application of numeric models to coastal hydrodynamics, geomorphological and ecological processes. Research activities will contribute to development and implementation of the next generation seamless 'creek-to-ocean' forecasts based on the SCHISM modeling system.



Qualifications: At the time of appointment, the successful applicant will have a PhD in an environmental science related field (e.g. marine science,) or a PhD in a computational related field (e.g. physics, engineering, computer science, applied mathematics) coupled with experience in environmental applications. Strong quantitative skills and experience in numeric model development and scientific programming (particularly in parallel programming), broad knowledge of coastal and estuarine systems are required. Experience and demonstrated skills in numeric modeling using unstructured grids, particularly in ocean/estuarine modeling will be preferred. Experience with the SCHISM model and applications to estuarine and coastal systems is highly desirable.

Applicant screening starts **August 30, 2020**.

[Details](#)

Looking for work? Try the CMOS site ([click](#)).

Vous recherchez un emploi? Visitez le site SCMO ([click](#)).

GENERAL

Prince Albert I Medal - IAPSO Call for nominations

The Prince Albert I Medal was established by Prince Rainier of Monaco in partnership with the International Association for the Physical Sciences of the Oceans. The medal was named for Prince Albert I and is given for significant work in the physical and chemical sciences of the oceans. The medal is awarded biannually by IAPSO at its Assemblies.



Nomination Process

Nominations must be submitted to the Secretary General of IAPSO, Dr. Stefania Sparnocchia, at iapso.sg@gmail.com and in copy to stefania.sparnocchia@ts.ismar.cnr.it. **All nominations should reach IAPSO by 20 October, 2020.**

The person accepting the medal is expected to deliver a Prince Albert I Memorial lecture on an oceanographic subject of his or her choosing at the Assembly where the medal is to be conferred. IAPSO will cover the necessary travel expenses for this purpose. Since due to the Covid-19 pandemic the IACS-IAMAS-IAPSO Joint Assembly scheduled for Busan, Republic of Korea, in 2021 has been cancelled, the next suitable Assembly will be IUGG 2023, in Berlin, Germany. However we are currently investigating the possibility of holding also an online Memorial talk in 2021.

[More about the Prince Albert I Medal](#)

[Nomination requirements](#)




OERA Webinar Series

August 20, 2020 1:00pm – 2:00pm ADT

[Learn More](#)

"Tethers Redefined: Hybrid ROVs and New Applications in Open Water and Under Ice"



oera
webinar
series

Andrew Bowen, Principal Engineer
Dr. Mike Jakuba, Senior Engineer
Woods Hole Oceanographic Institution
Thursday August 20 | 1:00PM AST

Woods Hole
Oceanographic
Institution
OERA
REGISTER AT
oera.ca/outreach

"The use of titania polymorphs as indicators of hydrocarbon migration in sedimentary basins"



Dr. Georgia Pe-Piper
Saint Mary's University (SMU)
Thursday September 24 | 1:00PM AST

oera
webinar
series



September 24, 2020 1:00pm – 2:00pm ADT

[Learn More](#)

"Real-time detection of marine mammals in high flow environments"



oera
webinar
series

Dr. Jean-François Bousquet
Dalhousie University
Thursday October 22 | 1:00PM AST

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REGISTER AT
oera.ca/outreach

October 22, 2020 1:00pm – 2:00pm ADT

[Learn More](#)

"How Does Sound Travel in High Energy Environments? Effectiveness of Acoustic Monitoring Systems and Turbine Audibility Assessment"



Dr. Bruce Martin
JASCO Applied Sciences (Canada) Ltd
Thursday December 10 | 1:00PM AST

oera
webinar
series

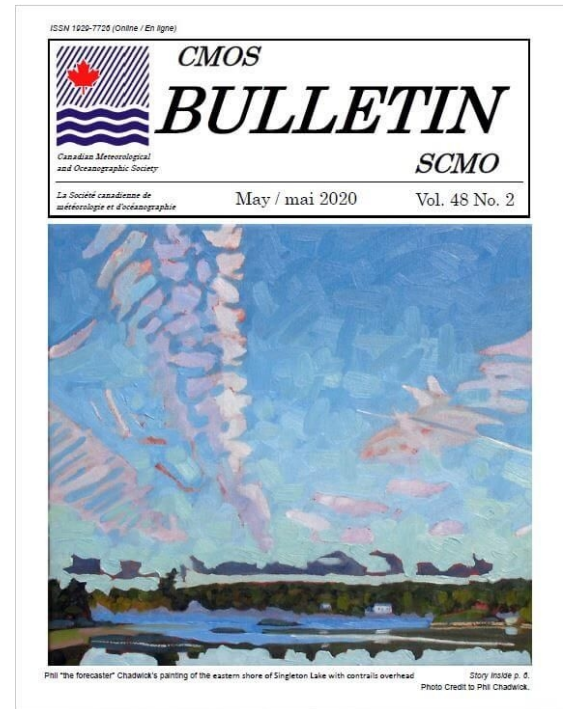


December 10, 2020 1:00pm – 2:00pm AST

[Learn More](#)

CMOS Bulletin

Vol.48 No.2 of the CMOS Bulletin was released in late spring. It is available for [viewing directly online](#) or [downloadable](#). Among the articles is one by forecaster-artist Phil Chadwick on the change in sky colour when there are no planes in the air. It was based on research done following 9/11. The direct effect was that night time temperatures under clear skies dropped on average three (maybe four) degrees Fahrenheit below the averages established prior to the event.



Arctic Inspiration Prize

The Arctic Inspiration Prize is intended for multidisciplinary teams who have made a substantial, demonstrated and distinguished contribution to the gathering of Arctic knowledge and who have provided a concrete plan and commitment to implement their knowledge into real world application for the benefit of the Canadian Arctic, its Peoples and therefore Canada as a whole.

The Prize recognizes and encourages teamwork and collaboration among *diverse groups and organizations*, from north and south, in addressing the *causes rather than the symptoms* of issues of importance to the Canadian Arctic and its Peoples.



The Arctic Inspiration Prize is not intended as a "lifetime achievement" award or to give appreciation for one great accomplishment. It does not recognize individual achievements but encourages team efforts in transforming Arctic knowledge into tangible outcomes. The Prize addresses worldly issues, therefore only secular, non-ideological nominations will be considered.

Up to 10 Prizes, with associated awards [totaling \\$3 million CAD](#), are presented annually to distinguished teams on a competitive basis. The awards are to be used towards the proposed knowledge implementation plan; they are not personal cash prizes. A diploma of recognition and an original piece of [artwork](#) from a Canadian Arctic artist accompanies the Prize.

[Details](#)

Deadlines: Letter of intent (optional): **September 8, 2020 11:59 p.m. PT**

Nomination Package: **October 14, 2020 11:59 p.m. PT**

Canadian Ocean Science Newsletter Le Bulletin Canadien des Sciences de l'Océan

Previous newsletters may be found on the [CNC-SCOR](#) web site.

Newsletter #114 will be distributed in **September 2020**.

Please send contributions to David Greenberg
david.greenberg@dfo-mpo.gc.ca

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If you wish to subscribe to this newsletter or cancel your subscription, please visit the website:

<http://www.mailman.srv.ualberta.ca/mailman/listinfo/cnc-scor>

Les [bulletins](#) antérieurs se retrouvent sur le site web du [CNC-SCOR](#).

Le Bulletin #114 sera distribué en **septembre 2020**.

Veillez faire parvenir vos contributions à David Greenberg, david.greenberg@dfo-mpo.gc.ca

Abonnement et désabonnement

Si vous souhaitez vous abonner à cette newsletter ou annuler votre inscription, veuillez visiter le site web:

<http://www.mailman.srv.ualberta.ca/mailman/listinfo/cnc-scor>

CNC-SCOR

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Markus Kienast (Dalhousie)
Michael Scarratt (DFO-IML)
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Stephanie Waterman (UBC)
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Le Comité national canadien du Comité scientifique de la recherche océanographique (SCOR) favorise et facilite la coopération internationale. Il reflète la nature multidisciplinaire de la science océanique et de la technologie marine.

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The Canadian National Committee of the Scientific Committee for Oceanic Research (CNC-SCOR) fosters and facilitates international cooperation. It is a non-governmental body that reflects the multidisciplinary nature of ocean science and marine technology.



WWW.CNCSCOR.CA